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Participatory Rapid Horticulture Appraisal Report

Peshawar Project Region
August 2012

The Agribusiness Project





Abbreviations

| | |
|-----------------|--|
| ASF | Agribusiness Support Fund |
| FATA | Federally Administered Tribal Areas |
| FGD | Focused Group Discussion |
| ICM | Integrated Crop Management |
| IPM | Integrated Pest Management |
| KP | Khyber Pakhtunkhwa |
| NGO | Non Governmental Organisation |
| NPC | Nominal Protection Coefficient |
| ME&C | Monitoring, Evaluation and Communication |
| PPR | Peshawar Project Region |
| PRHA/LA | Participatory Rapid Horticulture Appraisal/Livestock Appraisal |
| USAID | United States Agency for International Development |

Disclaimer: This Participatory Rapid Horticulture Appraisal report of Peshawar Project Region is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of The Agribusiness Project and do not reflect the views of USAID or the United States Government.

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Executive Summary

The Agribusiness Project is an initiative funded by United States Agency for International Development (USAID) and is being implemented by Agribusiness Support Fund (ASF) in collaboration with international and national organizations. During the first year of this five-year (2011-16) project, a preparatory program was undertaken to gauge the potential of the sub-sector and to prioritize value chains in the context of various project regions including the project region of Peshawar. Findings from Participatory Rapid Horticulture Appraisal (PRHA) will enable the project to identify and prioritize horticulture value chains, opportunities, constraints; and state of the business development services to provide required basis for focusing project interventions. The Peshawar Project Region covers central, eastern and northern part of the Khyber Pakhtunkhwa province, consisting of 17 districts and three Tribal agencies.

Within the framework of the cluster and value chain approach, a two-prong approach was adopted, first preparation for PRHA exercise in the field and second to collect secondary data and develop appropriate tools for quantification of factors so that it can be measured on a scale for ranking/prioritization. This report pertains to work completed based on both secondary data and primary appraisals of horticulture sub-sector.

The PRHA methodology provides for probing, analysis, and validation of information as they unfold during the field work. Seven factors were applied in the prioritization of value chain. These include; (i) extent of employment generation; (ii) commercial worth; (iii) percentage of small farmers associated, (iv) women involvement; (v) households associated with the value chains; (vi) understanding growth potential; and, (vii) vulnerability of the concerned value chains. Covering 50% of the districts, the exercise was undertaken in the randomly selected settlement/villages within each cluster/region. Each focus group consisted of 10-15 stakeholders, a representative sample of sub-sector. In each district, 2-3 FGDs were carried out. The analysis of secondary data is based on the district-wise data on area and production for last ten years which was collected and tabulated as time series data.

Based on the analysis of both secondary and primary information, it can be concluded that peach, citrus, strawberries, apple, melon and apricots are the priority value chains in the Project Region Peshawar. Data collected in respect of FATA reveals plum along with apricot and peaches are important fruits produced in Bajaur and Khyber Agency.

While in vegetables, potato, tomato and onion have been identified as the priority crops in Peshawar Project Region having the productive potential and scale/size of economies as well potential for enhancing productivity and profitability. Other crops may also have the potential such as off-season seasonal vegetables production, which may be cultivated at lower scales, but are important for higher income potential these entail due to higher prices in the market during off-season.

Peshawar Project Region represents a special case for opportunity and constraints to expand horticulture exports. The key constraints, which are hampering the abilities of the sector, include are the poor quality of the produce often failing to meet export standards; perishability of produce that requires efficient handling, low level of value addition and processing and marketing, resultantly poor performance of the sub-sectors as a whole. On the other hand the Region offers a varied climatic zones, close proximity to growing markets (national and international), lower production cost due to cheap labor and availability of water provide good opportunities to grow a variety of products round the year and to capture larger share of niche markets.

¹Peshawar, Mardan, Charsadda, Nowshera, Swat, Malakand, Buner, Chitral, Kohistan, Shangla, Dir (upper & lower), Mansehra, Abbotabad, Haripur, Batagram,

²Mohmand, Khyber and Bajaur

The Region shows a varied marketing trend where most of the produce (fruits and vegetables) is marketed locally. Demand for fruits and vegetables does exist at the International market, but that needs to be tapped after overcoming several constraints related to export. The existing marketing mechanism is performed by traditional ways such as, rough harvesting and handling methods, rudimentary grading, and poor quality packing, which reduce its marketability, leading to lower prices in the market. Also absence of enabling policies, ineffective approaches towards improving and sustaining product quality, and lack of reliable updated market information impede farmer's ability to take maximum benefits they deserve.

Strengthening market information system can play a vital role in increasing returns to the growers of fruits and vegetables, which can ultimately improve the living standard of the rural population and bring prosperity in the country.

Introduction

The Agribusiness Project is an initiative funded through the financial assistance of the American People implemented by United States Agency for International Development (USAID) in collaboration with Agribusiness Support Fund (ASF). The overall goal of the Project is to support improved conditions for broad-based economic growth, create employment opportunities and contribute to poverty alleviation through increase in competitiveness of horticulture and livestock value chains in partnership with all stakeholders. Specific objectives of the project are to: (i) strengthen the capacity in horticulture and livestock value chains to increase sales to domestic and foreign markets; (ii) strengthen the capacity of smallholders and farmer enterprises to operate autonomously and effectively; and, (iii) increase agriculture efficiency and productivity through adoption of new farming techniques and technological innovation among targeted beneficiaries.

During the first year of this five-year project, a preparatory program has been launched to gauge the potential of the sub-sector and to prioritize value chains in the context of various project regions. The project planned and conducted Participatory Rapid Horticulture Appraisal/Livestock Appraisal (PRHA/LA) in all the project regions throughout Pakistan. Findings from PRHA/LA will enable the project to identify and prioritize; horticulture and livestock value chains, opportunities, constraint; and state of the business development services to provide required basis for focusing project interventions.

The reports articulate for each region separately to enable better targeting and focusing project interventions. This report covers the project region of Peshawar covering central, eastern and northern part of the Khyber Pakhtunkhwa province. Within the framework of the cluster and value chain approach, a two-prong approach was adopted, first preparation for PRHA exercise in the field and second to collect secondary data and develop appropriate tools for quantification of factors so that it can be measured on a scale for ranking/prioritization. This report pertains to work completed based on both secondary data and primary appraisals.



The Region

Historically fruits and vegetables have had significant potential in the province of Khyber Pakhtunkhwa (KP) and FATA, where this sub-sector represent, along with hydro-power and minerals, a major potential for economic growth and development. The Peshawar Project Region (PPR) under the project consists of 17¹ districts and three tribal agencies² that stretches from central to north and east of the province. This project region holds comparative advantage in producing

temperate crops, however this comparative advantage needs to be translated into competitive advantage, an underlying objectives of the Agribusiness Project. Figure 1 and 2 below shows the area and production trends of fruits and vegetables respectively.

A brief overview and profile of horticulture in KPK reveals that, during the year 2010, total area under fruits was 47,000 hectares with annual production estimated at 447,200 metric tons. depicts trends over the last ten years for area and production in KPK, indicating that the area devoted to fruits has not

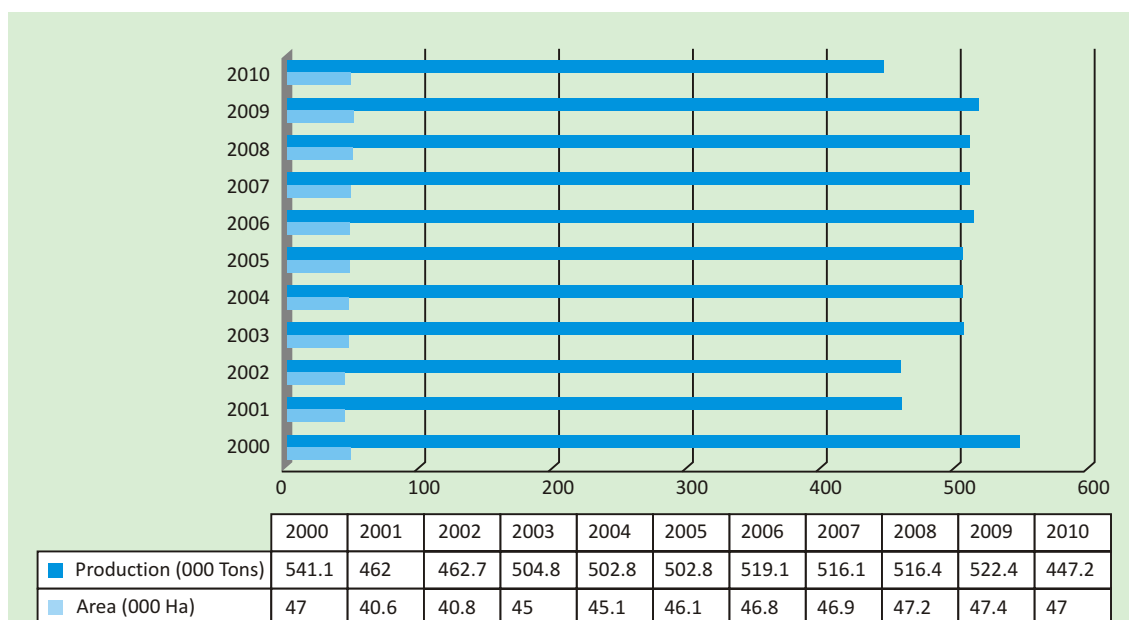


Figure 1: Area and production trend of fruits in KP

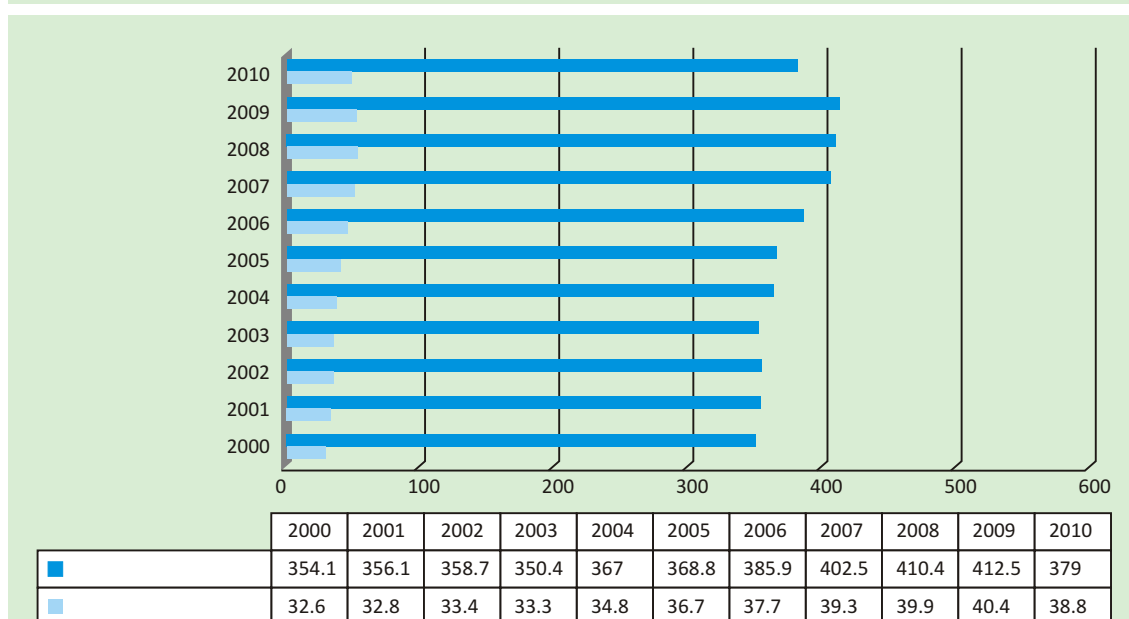


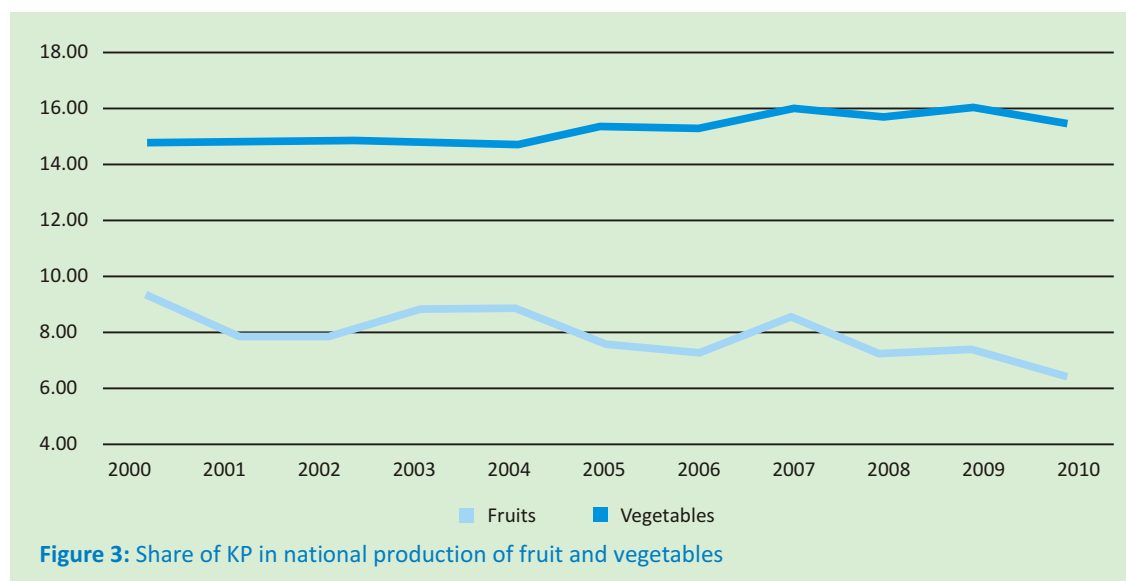
Figure 2: Area and production trend of vegetables in KP

1. Peshawar, Mardan, Charsadda, Nowshera, Swat, Malakand, Buner, Chitral, Kohistan, Shangla, Dir (upper & lower), Mansehra, Abbottabad, Haripur, Batagram and TORghar
2. Mohmand, Khyber and Bajaur

changed, while production has shown some degree of variation that is commonly found in horticulture sector due to erratic yield, depending a great deal on climatic condition. The production share of PPR in fruits at the national level only 6.4 percent in the year 2010, which dropped from 9.2 percent in the year 2000, clearly showing that production in KP has not

in national horticulture produce is shown in Figure 3.

The total production of fruits and vegetables in the project region of Peshawar was 308,298 and 33,081 tons respectively during the year 2009. This represents 4.43 % and 10.36 % share of the total production of fruit and vegetables of the country. Swat is the leading district for the production of most the



kept up with other fruits growing region of the country.

Trends for area and production for vegetables (excluding potatoes) is presented in Figure 2. There has been increase a slight increase in both area and production starting from year 2005. The share of KP in national vegetable production has increased, over the years, as compared with that of fruits. Provincial share

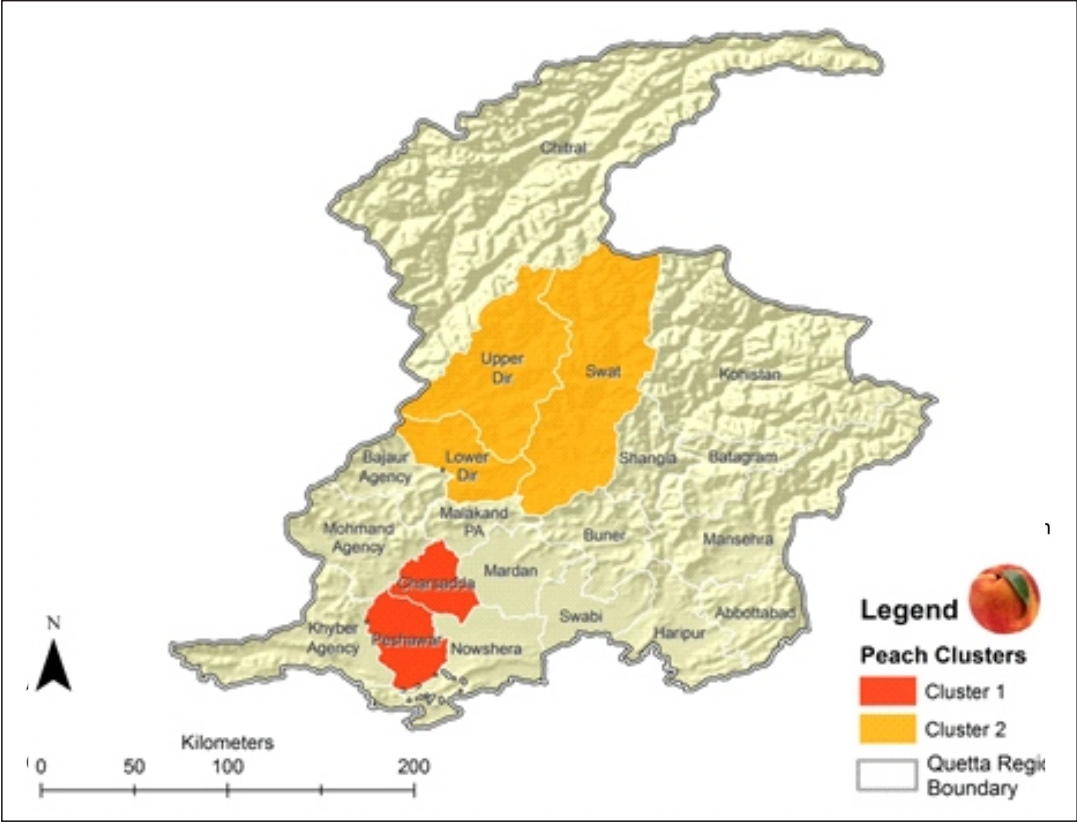
fruits produced in the region. However, per unit area yields are still low compared to other areas of the country as well as other districts within the province.

Peach, strawberry, citrus, tomato and potato are the five major value chains of the region. Total production of each of these long with their cluster districts is given in Table 1 below.

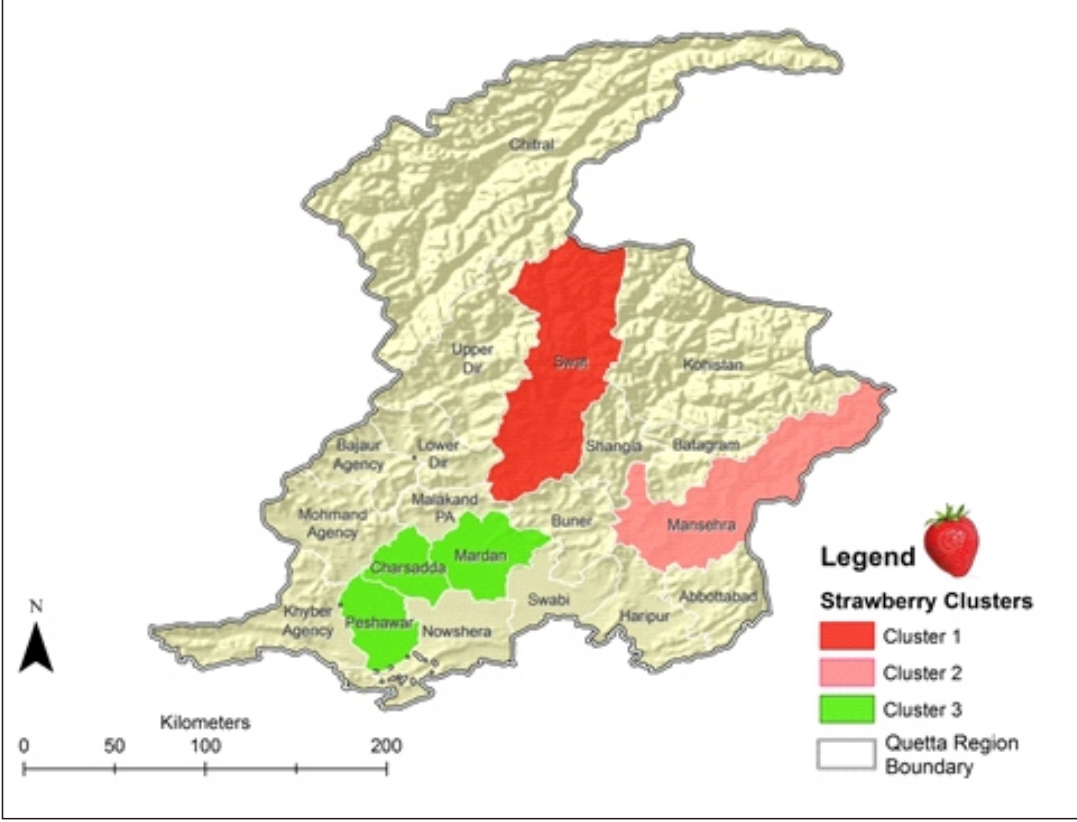
Table 1: Priority value chains of Peshawar Project Region

| S. # | Priority Value Chains (Fruit & Vegetables) | Clusters (Districts) | Total Production (Tons) | % share of the Province | % share of the Country |
|------|--|--|-------------------------|-------------------------|------------------------|
| 1 | Peach | (1) Charsadda and Peshawar, (2) Swat and Dir | 45,751 | 79 | 55 |
| 2 | Strawberry | (1) Swat (Runners) (2) Mansehra (Runners) (3) Peshawar, Mardan, and Charsadda (Fruits) | 56,417 | 48 | 14 |
| 3 | Citrus | (1) Swat, Dir, Bajaur, Malakand & Buner (2) Nowshera, Haripur Swabi and Mardan (3) Mohmund, & Kheyber Agency | 26,346 | 78 | 1 |
| 4 | Tomato | (1) Swat and Malakand (2) Charsadda & Mohmund Agency | 95,687 | 59 | 20 |
| 5 | Potato | (1) Swat, Dir, Chitral and Bajaur (2) Nowshera and Mardan | 80,074 | 66 | 3 |

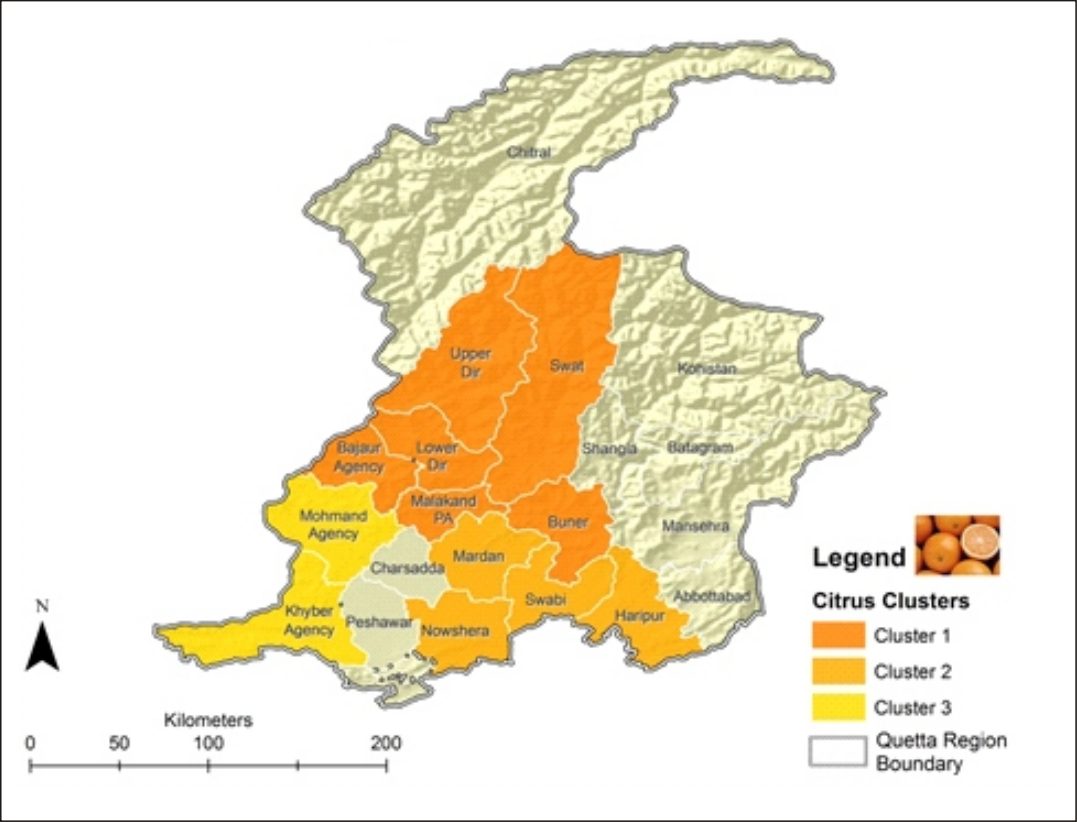
Peach Clusters



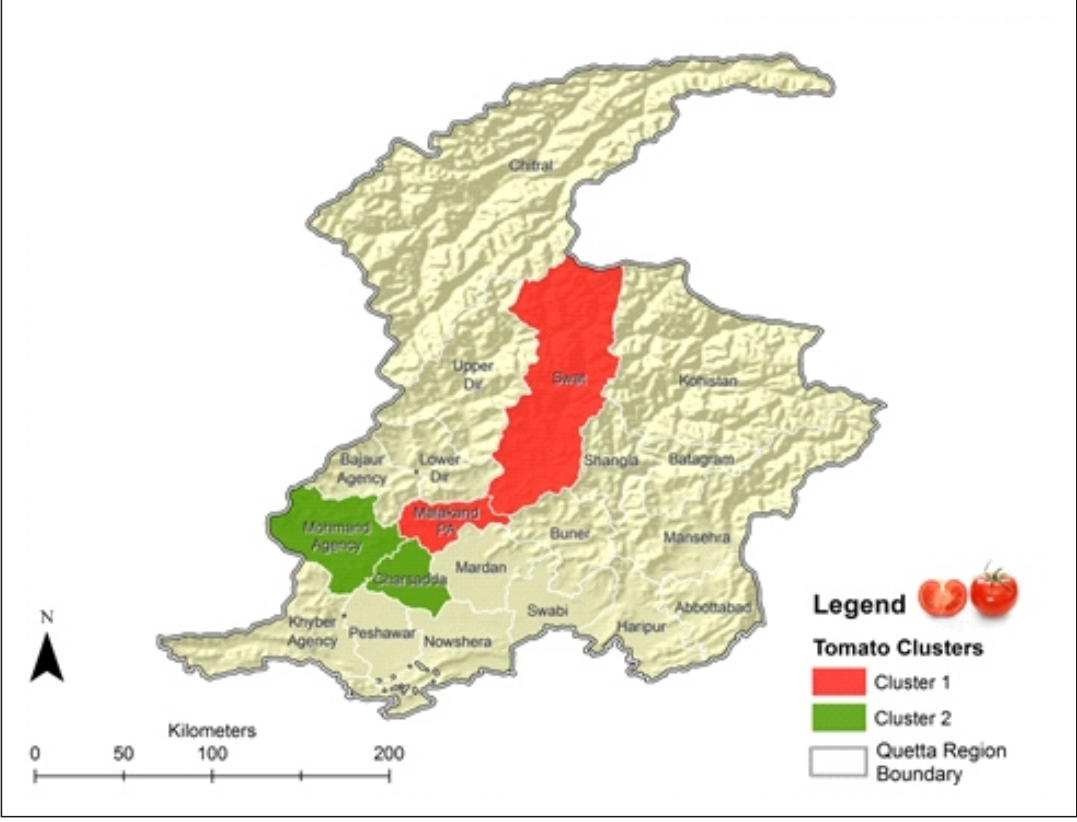
Strawberry Clusters



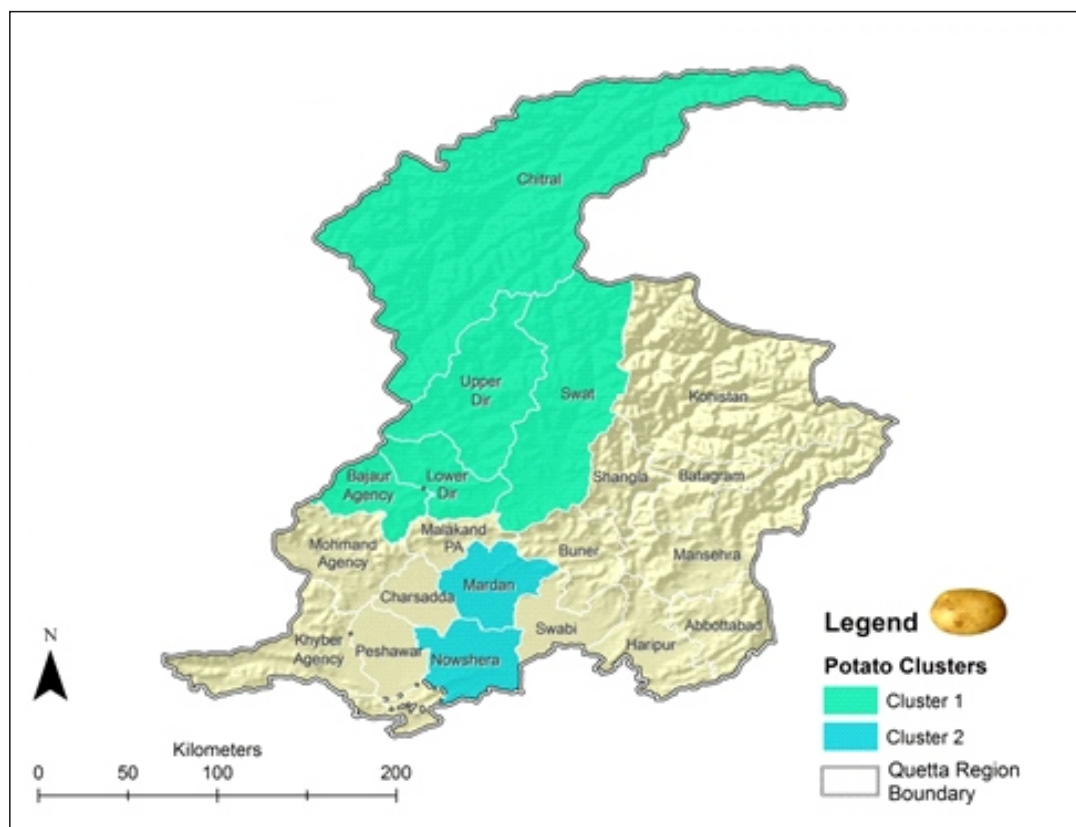
Citrus Clusters



Tomato Clusters



Potato Clusters



The region can capitalize on its comparative advantage represented by agro-ecological diversity and proximity to the main markets of the country as well as export potential to Afghanistan and Central Asian countries.

Methodology and Approach

The Participatory Rapid Horticultural Appraisal (PRHA) is one of the effective methodologies for exploring and gathering topical and focused information about a sub-sector system. Its advantages are to gather and analyze market information in a relatively short period of time employing fewer resources. The methodology provides for probing, analysis and validation of information as they unfold during the field work.

The PRHA exercise allowed for a quick assessment of the sub-sector, including prioritization of value chains, identifying and prioritizing opportunities and relevant constraints impeding the realization of the opportunities as well as an assessment of the current state of the services provided by various facilitators to agribusinesses in the region. Further, linkages of the sub-sectors with local and national markets were also explored. The appraisal was conducted with a view to prepare the stage for focusing project intervention as well as for the project baseline and value chains benchmarking studies. The PRHA results will enable to prioritize value chains (validating the cluster approach), set benchmarks, and support establishment of a database to generate primary data on key indicators to be maintained and updated during the course of project implementation and afterwards supporting the planning, monitoring, evaluation and communication functions of the project.

The analysis of secondary data is based on the district-wise data on area and production for the last ten years, which was collected and tabulated as time series data. From these data, subset for Peshawar Region was extracted, which covers KP, FATA and FR Peshawar. The selection of crops was based on groundwork done in the past by the USAID's FIRM project to identify crops based on cluster approach as indicative list of potential sub-sectors / value chains and priority value chain documented in the work plan. The district-wise secondary data on area, production for apricot, apple, guava, peaches, citrus, grapes,

watermelon and pears was tabulated from year 2005 to 2010. The major factors considered as important aspect for prioritization included; (i) the growth % rates share of commodity in world production Peshawar Project Region share in national production; (ii) Peshawar Project Region share in KPK; (iii) productivity gap; (iv) employment intensity; and, (v) export potential based on incentive structure.

The primary appraisals were based on quantification of factors so that it can be measured on a scale for ranking/prioritization. Seven factors applied in the appraisal included; (i) Extent of employment generation; (ii) Commercial worth; (iii) Percentage of small farmers associated, (iv) women involvement; (v) households associated with the value chains; (vi) understanding growth potential; and, (vii) vulnerability of the concerned value chains.

The appraisal was carried out by the project region with the assistance of the project Monitoring, Evaluation and Communication (ME&C) unit and consultants retained to guide the team throughout the implementation of the appraisals. Covering 50% of the districts, the exercise was undertaken in the randomly selected settlement/villages within each cluster/region. Each focus group consisted of 10-15 stakeholders, a representative sample of sub-sector. In each district, 2-3 FGDs were carried out. In FATA; alternatively, meetings were held with individuals including community representatives, progressive farmers and staff of Agriculture Directorate to gather requisite data for this appraisal. The analysis of the information was consolidated at the project regional level to identify priorities.



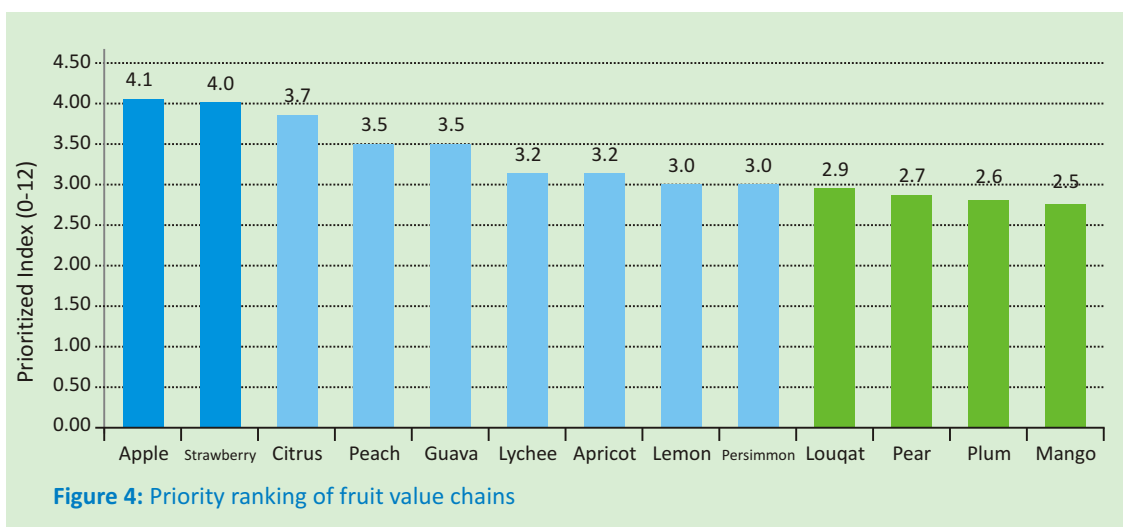
Appraisal of Fruit Sub-Sectors

Prioritization of value chains

The comparative appraisal is based on the composite index calculated based on the seven factors used in the grid analysis. The analysis of fruits places apple as the priority followed by strawberries, citrus and peach in the region. Figure 4 shows the priority ranking of fruits

been observed to be 20%, which can be minimized using improved management practices. It has high potential to be marketed at the national and international levels.

As compared to other fruits, **strawberry** is a relatively new crop and is grown in Swat, Abbottabad, Mansehra, Haripur, Peshawar, Mardan and Charsadda districts of Khyber Pakhtunkhwa. About 27.5% increase in growth has been recorded in strawberry during the past five years. Strawberry is mostly grown



during the PRHA on the prioritized index (0-12).

Apple is grown in Swat, Chitral and some areas of Mansehra as well. The FGDs conducted show that growth rate of apple over the past five years is the highest among the value chains. Its growth is rising in different areas of Chitral and upper Swat, however, its growth in Mansehra district is timid. Apple offers about 11% women involvement and provides livelihood to 40% small farmers. Losses in apple have

by small farmers; as recorded during FGDs, 82.5% of the small farmers are associated with strawberry production. Strawberry culture is quite profitable for small land owners. The strawberry fruit is soft and perishable and its quality is affected when it touches the soil. Due to its short shelf life, careless picking, and improper packaging and transportation, it has recorded the highest percentage of losses (30%) among the five top ranking value chains. The fruit is commercially consumed both in fresh form and can be

preserved for making jam, jellies and squashes that can be used in off-seasons.

Citrus is third on the priority ranking index. It has the highest number of clusters than other value chains; it is produced in several areas in the districts of Dir, Malakand, Nowshera, Haripur and Mardan. Citrus offers the highest level (29%) of employment among the top ranking value chains in the fruits. Due to improved packaging and transportation, losses in citrus have decreased but still, it is faced with 9% pre and post-harvest losses.

Next on the priority index is **peach**. Its production area is extended to the districts of Charsadda, Mardan, Malakand, Swat and Mansehra. As shown in the table above, growth rate of peach has been estimated to be 30%, which is the second highest percentage among the top five value chains of Peshawar Project Region.

The analysis based on secondary data, shows that peaches, melon and apricots are the priority fruit crops in KP.



Table 2: Possible production clusters of fruit value chains

| Priority Value Chain | Clusters/Districts | Total Production of the Cluster (Tons) | Percent Share in the Province (%) | Percent Share in the Country (%) |
|----------------------|--------------------------------------|--|-----------------------------------|----------------------------------|
| Peach | Swat and Dir | 42,688 | 85 | 59 |
| | Charsadda and Peshawar | 1,610 | 3 | 2 |
| Citrus | Swat, Dir, Malakand and Bunir | 14,472 | 40 | 1 |
| | FATA (Mehmand, Bajaur and Khyber) | 2305 | 6.4 | 0.2 |
| | Haripur, Swabi, Nowshera, and Mardan | 10,960 | 31 | 1 |
| Strawberries | Swat (runners) | 45,315 | 38 | 11 |
| | Charsadda, Mardan, Peshawar | 4,046 | 25 | 1 |
| | Mansehra (runner potential) | 7,056 | 40 | 3 |
| Apple | Swat and Dir | 4,058 | 12 | 1 |
| Melon | Charsadda, Mardan and Peshawar | 42,688 | 85 | 59 |
| Apricot | Swat, Dir and Chitral | 1,610 | 3 | 2 |
| | FATA (Mohmand, Bajaur and Khyber) | 1512 | 2.3 | 1.5 |
| | Charsadda and Peshawar | 14,472 | 40 | 1 |
| Plum | FATA (Bajaur and Khyber) | 1273 | — | — |

Based on the analysis of both secondary and primary information, it can be concluded that peach, citrus, strawberries, apple, melon and apricots are the priority value chains in the Peshawar Project Region. The key clusters for the priority products are given in Table 2 above.

Data collected in respect of FATA reveals plum along with apricot and peaches are important fruits produced in Bajaur and Khyber Agency. According to Horticulture Policy for FATA of 2009, the fruits prioritized include apple, peaches and apricot.

Prioritized Opportunities

For prioritization of opportunities, paired ranking tool was used. Table 3 below provides self-explanatory list of opportunities as prioritized/ranked by the participants during the FGDs. A number of opportunities exist, in the region, which can catalyze the development of this sub-sector. Of them the most important are the infrastructure (storage and marketing), increasing demand and processing technologies etc. These opportunities can be further reinforced through the project interventions leveraged by primary-sector investments provided that a holistic and integrated approach is applied.

Table 3: Priority opportunities

| Priority Opportunities | Rank |
|---|------|
| Availability of cold storages and market infrastructure | 1 |
| Increasing demand in national market | 2 |
| Processing technology including solar drying | 3 |
| Availability of farm service centers (FSCs) | 4 |
| Fruit processing and product diversity | 5 |
| Availability of improved packaging in the market | 6 |
| Availability of high yielding new varieties of fruit | 7 |
| MFI's (provision of grants/interest-free loans) | 8 |

Prioritized Constraints

Constraints to fruit value chains were also identified and prioritized by participants during the FGDs on the basis of their potential as high, medium or low.

The key constraints hampering the development of fruit sub-sector are listed in Table 4. Of significance are those that are categorized as high in terms of its intensity. Some of the constraints mentioned can be in contradiction with the opportunities listed. It indicates that the production of fruit and its marketing

is in transition as a component of the farming system which has traditionally been subsistence oriented. Most constraints are cross-cutting and generic in nature which provides information on the overall sub-sector and some of the constraints can be considered as opportunities for investment by the project provided that willingness in the private sector for investment exists. These may include promotion of certification scheme for production of true to type fruit plants, promotion of business development services and encouraging processing and value addition.

Table 4: Priority constraints

| Priority Constraints | Intensity |
|---|-----------|
| High prices of agriculture inputs | High |
| Lack of effective coordination among different stakeholders | High |
| Use of poor packaging | High |
| No proper storage facilities, particularly at the local level | High |
| Lack of true-to-type (certified) plants | High |
| Limited information and skills about improved agricultural practices, marketing, and technical facilities | Medium |
| No proper facilities for processing of fruits | Medium |
| Limited effectiveness of Farm Service Centers (FSCs) | Medium |
| Non-availability of soft loaning facility, particularly, for tenants | Medium |
| High cost of transportation | Medium |
| Lack of collection points/distant markets | Low |

Appraisal of Vegetables Sub-Sectors

Prioritization of value chains

On the priority scale, potato is the leading commodity followed by tomato, bitter gourd, onion and peas. The priority ranking of vegetables based on the rapid appraisal is shown in Figure 5.

In general all varieties of vegetables are grown in

comparatively more losses have been recorded in tomato and onion.

The secondary data in Table 5 reveals that the share of onion and tomato in national and provincial production is quite high and indicates the significance of these vegetables and highlights the need to provide support to improve their competitiveness. The data confirms that more than half of tomato production in KPK takes place in district of Swat and other 49 percent is shared by rest of the province. On the other hand 84 %

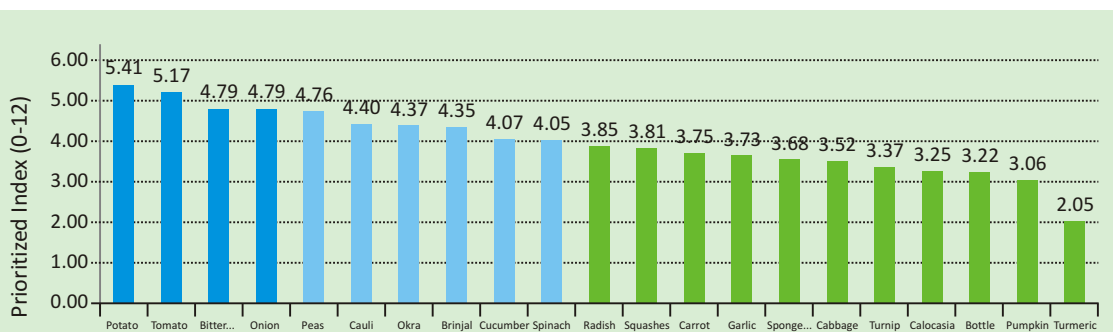


Figure 5: Priority ranking of vegetables in Peshawar Project Region

almost all districts of Peshawar Project Region (particularly plain areas) except some areas with peculiar environmental conditions like Upper Swat, Upper Dir and Chitral, which offer comparative advantage for production of certain vegetables as well opportunity to fit to niches in the market in term of seasonality. Vegetables are mostly grown for commercial purposes as well as domestic utilization by producers. While potato, brinjal and tomato lead in providing more employment opportunities. The peas recorded considerably higher women involvement as compared to other top ranking vegetables. Bitter gourd leads the priority ranking in terms of growth rate observed due to increasing demand in international markets. As regards vulnerability,

of onion production takes place in districts of Swat, Lower and Upper Dir with more than 50% share



Table 5: Prioritization of value chains based on secondary data

| Vegetables | Percentage | Scores | Ranking |
|------------|------------|--------|---------|
| Tomato | 57% | 1 | High |
| Onion | 52% | 2 | |
| Potatoes | 44% | 3 | |
| Chilies | 32% | 4 | Low |

Table 6: Possible production clusters

| Priority Value Chain | Clusters/Districts | Total Production of the Cluster (Tons) | Percent Share in the Province | Percent Share in the Country |
|----------------------|---|--|-------------------------------|------------------------------|
| Potato | Swat, Dir, Bajaur, Manshera and Chitral | 54,359 | 45 | 2 |
| | Nowshera and Mardan | 25,270 | 21 | 1 |
| Tomato | Swat and Malakand | 78,954 | 49 | 14 |
| | Charsadda and Mohmand Agency | 16,733 | 10 | 3 |
| Onion | Swat, Dir and Bunir (seed) | 164,105 | 82 | 9 |
| | Bajaur Agency and Mohmand Agency | 13,347 | 7 | 1 |
| Better Gourd | Charsadda, Mardan, Peshawar | | | |
| Peas | Swat | | | |
| | Charsadda and Peshawar | | | |

attributed to Swat.

The analysis of secondary data places tomato, onions, and potatoes as the priority vegetable crops in Peshawar region having the productive potential and scale/size of economies as well potential for enhancing productivity and profitability. Other crops may also have the potential such as off-season seasonal vegetables production, which may be cultivated at lower scales, but are important for

higher income potential these entail due to higher prices in the market during off-season. Major Production clusters for vegetables in the region are given in Table 6 above.

Similarly, onion, tomato and potato are the three main vegetables crops in FATA (Mohmand, Bajaur and Khyber). As per the Agriculture Statistics of FATA Directorate the three top crops present in Table 7 below.

Table 7: Top three vegetables in terms of production in FATA

| S. # | Vegetable | Area in Hectare (2005-2006) | Production in Tons (2005-2006) |
|------|-----------|-----------------------------|--------------------------------|
| 1 | Onion | 1,295 | 16,235 |
| 2 | Tomato | 1,490 | 10,640 |
| 3 | Potato | 530 | 6,620 |

Prioritized Opportunities

Opportunities for vegetables related value chains were scored and ranked during the exercise.

The appraisal reveals that major priority opportunities are represented by the availability of cold storage infrastructure increasing market demand and potential for processing/preservation and export. These opportunities are cross-cutting and investment in these will generate employment and income generation opportunities. Ranking of priority opportunities concerning vegetables is given in 9.

Table 8: Priority opportunities

| Priority Opportunities | Rank |
|--|------|
| Availability of cold storages | 1 |
| National & international markets demand for high quality produce | 2 |
| Drying and dehydration | 2 |
| Farm Service Centers (FSCs) providing inputs/ services | 3 |
| Improved/quality seeds | 4 |
| MFI's provision of grants/soft loans | 4 |
| Nurseries, to provide services and inputs | 4 |
| Improved packaging facilities | 5 |
| Growing trends in seed production | 6 |
| Training and certification facilities | 6 |
| Introduction of tunnel technology | 6 |

Prioritized Constraints

Constraints to vegetables value chains were also identified and prioritized by participants during the FGDs on the basis of their potential as high, medium or low. Here is a list, which is self-explanatory.

The key constraints hampering the development of vegetables sub-sector are listed in Table 9. Most constraints are cross-cutting and generic in nature relevant to the sub-sector in general. The high ranking constraints provide opportunities for investment, which will not only generate income and employment, but also act as drivers for the wider development of the sub-sector. However, the key consideration for intervention in addressing the constraint should be private sector investors willing to partner with the project.

The Horticultural Policy 2009 for FATA sorts out a number of constraints hindering the production, processing and marketing of both fruits and vegetables. These constraints are summarized below:

- Poor quality of planting material
- Traditional practices and little awareness regarding improved technology and innovation
- Use of inappropriate packaging and non-adoption of improved post-harvest handling
- Poor market infrastructure and fragmented market chain

Table 9: Priority constraints

| Priority Constraints | Intensity |
|---|-----------|
| High price of agriculture inputs | High |
| Under-utilization of agrochemicals | High |
| Lack of collection points | High |
| No proper packing sheds | High |
| No proper storage facilities | High |
| Poor packaging | High |
| Limited availability of quality seeds | High |
| Lack of investment | Medium |
| Poor linkages with national markets | Medium |
| Non availability of standard packing material | Medium |
| High cost of transportation | Medium |
| Lack of awareness and facilities about improved farming practices | Low |

State of the Services Provision

The availability and quality of business development services is important for the overall development of any sub-sector. The situation with regarding to services provision for both fruit and vegetables was appraised together with focus groups. In most cases the linkages between service providers and users

were termed as weak to medium as shown in Table 10 below. To be effective in enhancing profitability of fruit growers, there is a need to build confidence and develop strong linkages of agribusiness with service providers.

Table 10: State of the service provision

| Service Providers | Linkages | Paid/Free | Services Provided |
|---|------------------|--------------------|---|
| Agriculture Department s (Research, Extension, Water Management etc.) | Medium | Free | Awareness, guidance and information regarding seeds and improved agriculture practices. |
| Commercial Banks | Weak | Paid | Finance, training and information |
| Banks (ZTBL) | Medium | | |
| Exporters | Medium | | Collect the produce from the farm for local market (mandi) |
| Farm Service Center | Medium | Free | Training and information on improved farm practices |
| Market Agents | Medium to Strong | Cash & Credit | Marketing and fixing of prices and supply of inputs |
| | Strong | Credit | Financial support in purchase of inputs like fertilizers, pesticide etc. |
| Non Governmental Organisations \ (NGOs) | Medium to Strong | Free and cash both | Trainings and information, consultancy and timely supply of inputs on subsidized cash payment |
| Private Seed, Agro-Chemical, Packaging and Fertilizer Companies | Medium to Strong | Cash | Provide inputs, timely supply of inputs on cash payment, awareness of the farmers |

State of Market Linkages

Marketing of fruits and vegetables varies from commodity to commodity; however, generally, most of the produce is channeled to local and country markets. Some of the national markets relevant for the regional producers include Rawalpindi, Islamabad, Lahore, Gujranwala and Karachi. Demand for fruits and vegetables do exist in the international markets (particularly Gulf countries) but that needs to be tapped after overcoming several constraints related to export.

Marketing of fruits and vegetables is characterized by the presence of numerous intermediaries performing at various distribution stages, thus adding to marketing costs and directly affecting the price received by the farmer and paid by the consumer. The domestic market players include farmers, commission agents, contractors, wholesalers, inter-market traders and many other retailers. In general, intermediaries dominate the system and there is little direct market participation of the farmers, particularly small farmers.

The existing marketing operations are performed by traditional way such as, poor harvesting and handling methods, rudimentary grading, and poor quality packing, which reduce its marketability, leading to lower prices in the market. The non-availability of refrigerated lorries/trucks to transport vegetables and fruits from farm to distant markets increases the spoilage rate and reduces the bargaining position of the sellers.

Absence of enabling policies favoring growers (particularly small farmers), ineffective approaches towards improving and sustaining product quality, and lack of reliable updated market information also impede farmers' ability to take maximum benefits they deserve. Lack of market information system has increased the complexity of the marketing system on one hand and brought less return to the farmers on the other. Strengthening market information system can play vital role in increasing returns to the growers of fruits and vegetables, which can ultimately improve the living standard of the rural population and bring prosperity in the country. Exports are considered as a

means of surplus disposal mainly channeled from the wholesale markets. Exports endeavors need to be supported by a "grow-for-export" strategy. Again, a well-established market information system can play vital role in this connection.

A crude estimate of Nominal Protection Coefficient (NPC) indicates that apple producers are getting very low price compared to export price, on the other hand peach growers are getting price close to international, carrying a much better incentive structure in comparison to other fruits under review. Perhaps this explains the relatively high growth rate observed in peaches in the Peshawar region, which is driven by productivity and acreage. The low price or profits provide an opportunity to improve competitive advantage, meaning adopting good agriculture practices and marketing a better quality produce that compete and earn better income.





Conclusion

The region represents a special case for opportunity and constraints to expand horticulture exports. The key constraints, which are hampering the abilities of the sector include poor quality of the produce often failing to meet export standards; perishability of produce that requires efficient handling, low level of value addition and processing and marketing, resultantly poor performance of the sub-sectors as a whole. On the other hand Peshwar Project Region offers a varied climatic zones, close proximity to growing markets (national and international), lower production cost due to cheap labor and availability of water provide good opportunities to grow a variety of products round the year and to capture larger share of niche markets.

Based on the PRHA, the following summary conclusions can be drawn;

- Among the fruits peaches, strawberries, citrus, apple, melon and apricot value chains represent potential in terms of volumes, value and diversity while other products can be promoted as niche market opportunities. Among the vegetables, priority is associated by grower to potatoes, tomatoes, onions, bitter gourd and peas whereas many different other vegetables can be produced in the off-season.
- The prioritized value chain is not competing well in global markets as none of them are among top 20 on volume and value terms. In vegetables (chilies and onion) is performing better in global

markets.

- For fruit and vegetables, to develop in the region, it has to realize growth in volumes, however competition at domestic and world market would, in addition, need to invest in quality improvement.
- The productivity of fruits and vegetable as well as post-harvest losses are of special mention to be addressed. Productivity gap for most commodities under review range from 85 to 95 percent. Relatively lower productivity and poor quality of the produce makes Peshawar region fruits and vegetable uncompetitive in export markets despite massive devaluation in the country's currency over the last four years. This also explains low or decreasing market share for horticulture crops in global markets. The post-harvest losses represent an opportunity to be tapped on.
- Lack of post-harvest infrastructure (cool chain, pack houses, poor packaging etc.) and logistics for maintaining the quality of the highly perishable fruits that carries poor physical market access, increasing input prices, poor coordination among stakeholders, lack of economies of scale and traditional practices are some of the constraints that has an impact on the production of both fruit and vegetables.

References

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 - 8.2 FAO Database 2012 accessed through internet
9. **Employment Intensity**

Potential for labor per acre calculated as percentage of labor days of wheat (ADB) plus index derived by PRHA results at field survey in the region and information gathered from various reports.
10. **Export Potential as Measured by Incentive Structure**

FAO Database: The difference between export value of Pakistani produce and world export value (five years average).

(Annexure are available at The Agribusiness Project Office Islamabad, and can be provided upon request for reference)





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